

### **REMARKS**

Claims 1 and 30-33 have been canceled, and Claims 2-16 have been amended. Claims 2-29 are present in the application. In view of the foregoing amendments, and the remarks that follow, Applicants respectfully request reconsideration.

#### **Non-Elected Claims**

Claims 30-33 were withdrawn from examination pursuant to a restriction requirement. Accordingly, Claims 30-33 have been canceled. Applicants reserve the right to eventually file a divisional application that presents the subject matter of these non-elected claims for consideration on the merits.

#### **Amendments to the Specification**

The Office Action requested that Applicants correct any errors in the specification of which Applicants happened to be aware. Applicants happened to note three minor errors, and the foregoing amendments to the specification correct these errors.

#### **Allowable Subject Matter**

Noted with appreciation is the indication in the Office Action that Claims 13-14 and 27-28 recite allowable subject matter, and would be allowed if rewritten in independent form. Claims 13 and 14 each depended from original independent Claim 1, and the foregoing amendments introduce the limitations of Claim 1 into each of Claims 13 and 14, so that Claims 13 and 14 are each now in independent form. Claims 13 and 14 should thus be in proper condition for allowance, and notice to that effect is respectfully requested.

Claims 27 and 28 each depend from independent Claim 17. Claim 17 is believed to be allowable for reasons discussed later. Accordingly, it is believed to be unnecessary to separately place Claims 27 and 28 in independent form at this time.

Comment on Statement of Reasons for Allowance

In the last two paragraphs on page 9 of the Office Action, and in the first paragraph on page 10, the Examiner offers a statement of reasons why Claims 13-14 and 27-28 are considered to recite allowable subject matter. Applicants agree that Claims 13-14 and 27-28 recite allowable subject matter. However, Applicants do not agree in all respects with the statement of reasons for allowance. For example, Applicants believe that the stated reasons should not be interpreted to mean that they are the only reasons supporting the allowability of these claims, and that there are no other reasons that separately and independently support the allowability of these claims.

Independent Claim 6

Claim 6 originally depended from independent Claim 1. The foregoing amendments add the limitations of Claim 1 to Claim 6, in order to place Claim 6 in independent form. These amendments merely convert Claim 6 into independent form, and do not change the scope of Claim 6 in any way.

The Office Action rejected Claim 6 under 35 U.S.C. §102 as anticipated by Yeo U.S. Patent No. 6,492,216. This ground of rejection is respectfully traversed, for the following reasons.

THE §102 REJECTION IMPROPERLY COMBINES MULTIPLE EMBODIMENTS

The drawings of Yeo disclose three different embodiments. More specifically, Figures 1-5 show initial processing that is common to all three embodiments. When fabrication has reached the stage shown in Figure 5, the device can be completed in one of three distinctly different ways, as follows:

1. Figure 6 shows a first option for completing the device, as described in the associated text at lines 26-43 of column 5.

2. Figures 7-8 show a second option for completing the device, as described in the associated text at lines 44-62 of column 5.
3. Figure 9 shows a third option for completing the device, as described in the associated text from line 63 of column 5 through line 25 of column 6.

As noted above, Claim 6 originally depended from Claim 1, and has now been amended to include the limitations of Claim 1. In the Office Action, the §102 rejection of Claim 1 is explained at lines 13-20 on page 3, where the Examiner indicates that the limitations in Claim 1 are completely anticipated by the disclosure in Yeo that includes "figures 1-9, and corresponding text". The §102 rejection of Claim 6 is explained at lines 11-15 on page 4, where the Examiner indicates that the limitations in Claim 6 are completely anticipated by the disclosure in Yeo that includes "figures 7 and 9; col. 5, lines 50-54 and lines 63-67; col. 6, lines 1-25". In other words, in rejecting the limitations of Claim 6 for anticipation under §102, the Examiner attempts to combine teachings selectively extracted from three separate and distinct embodiments that are disclosed in Yeo. This approach is respectfully traversed, because it is not permissible under §102.

More specifically, as explained in MPEP §2131, anticipation under §102 requires the presence in a single prior art reference of each and every element of the claimed invention, and the elements in the reference must be arranged as required by the claim. In other words, the reference underlying a §102 rejection must do more than merely disclose each and every element recited in the claim. The reference must disclose all of those elements in a single embodiment that contains the entire combination recited in the claim, including all recited interrelationships between recited elements.

This requirement in MPEP §2131 is a result of decisions by the federal courts and by the PTO's Board of Appeals. For example, the Court of Appeals for the Federal Circuit has consistently held that:

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed.Cir. 1984), citing *Connell v. Sears Roebuck & Co.*, 220 USPQ 193 (Fed.Cir. 1983). (Emphasis added).

In *Lindemann*, the Federal Circuit struck down a finding of anticipation, emphasizing that the underlying analysis was erroneous to the extent that it "treated the claims as mere catalogs of separate parts, in disregard of the part-to-part relationships set forth in the claims and that give the claims their meaning". *Lindemann* at 486.

Within the Patent Office, the Board of Appeals adheres to precisely the same requirement. For example, an examiner used a reference to Partington as the basis for a §102 rejection of claims presented by an applicant named Gould. Partington disclosed all of the claimed elements, but not in a single embodiment having all of the recited interrelationships between elements. Gould appealed the rejection, and the Board of Appeals reversed the rejection. The Board explained that:

Gould has argued throughout the prosecution of this case that, while all the elements of his claimed device were known (and are shown in Partington), the elements were not arranged in the manner required by the claims. We agree. *Ex parte Gould*, 6

USPQ2d 1680, 1682 (Bd.Pat.App. & Int'f. 1987).  
(Emphasis added).

In the present application, the Yeo patent discloses several separate and distinct embodiments, including (1) the embodiment of Figures 1-5 and 6, (2) the embodiment of Figures 1-5 and 7-8, and (3) the embodiment of Figures 1-5 and 9. The §102 rejection of Claim 6 is not based on a single embodiment in Yeo, as required by §102 and by MPEP §2131, but instead is based on two or three different embodiments in Yeo. Stated differently, in explaining the rejection of the limitations that appear in Claim 6, the Office Action draws isolated structural features from two or three distinct embodiments, and then combines those isolated features in order to make the rejection. The Examiner has apparently assumed that, in a §102 rejection based on a single reference, any and all teachings in the reference can be freely used in making the rejection. However, this is exactly what the examiner did in the above-mentioned *Gould* case, and that approach has been flatly rejected by the Board of Appeals and by the federal courts. This is due in part to the fact that any attempt to combine two or more embodiments raises issues of obviousness under 35 U.S.C. §103, even if the embodiments are all in the same reference. The present rejection is based on §102 rather than §103, and does not even attempt to meet the PTO's requirements for establishing a prima facie case of obviousness under §103 (for example because it fails to demonstrate the existence of motivation to select and combine isolated elements from multiple embodiments). Further, to the extent the Office Action relies on multiple embodiments, it fails to establish a prima facie case of anticipation under §102 (because anticipation must be based entirely on a single embodiment in the reference, and not a combination of several embodiments).

Thus, the §102 rejection of Claim 6 fails to meet the requirement noted by the Federal Circuit in *Lindermann*, adhered to by the PTO Board of Appeals in *Gould*, and reiterated by the PTO in MPEP §2131. Stated differently, Claim 6 of the present application is not anticipated by the Yeo reference for the same basic reason the Board of Appeals ruled that Gould's claims were

not anticipated by the Partington reference. Accordingly, it is respectfully submitted that the §102 rejection of Claim 6 is not proper and must be withdrawn, and notice to that effect is respectfully requested. If the Examiner wishes to continue to rely on proposed combinations of elements that have been selectively extracted from multiple different embodiments in Yeo, the Examiner would need to present those rejections under §103 rather than §102, and would need to meet the PTO's requirements for establishing a prima facie case of obviousness under §103.

#### YEO DOES NOT DISCLOSE WHAT THE OFFICE ACTION SAYS IT DOES

Applicant's Claim 6 includes a recitation of:

... altering at least a portion of the semiconductor alloy layer to a material receptive to a selective removal process ...

In the Office Action, the Examiner asserts at lines 12-13 on page 4 that this particular limitation is met by lines 50-54 in column 5 of Yeo. However, lines 50-54 in column 5 of Yeo state that:

The selective removal procedure, performed either prior to, or after heavily doped source/drain formation, is accomplished via dry etching procedures using Cl<sub>2</sub> or SF<sub>6</sub> as an etchant for exposed silicon. This is schematically shown in FIG. 7.

Stated differently, this portion of Yeo merely talks about etching away a material. It says nothing about altering a semiconductor alloy material so as to convert it to a different material. In other words, the indicated portion of Yeo does not have anything comparable to the "altering" limitation that is expressly recited in Claim 6. The PTO specifies in MPEP §2131 that, in order for a reference to anticipate a claim under §102, the reference must teach each and every element recited in the claim. Since the indicated portion of Yeo does not contain anything comparable to

the "altering" that is recited in Claim 6, Yeo fails to disclose each and every element recited in Applicants' Claim 6. Claim 6 is therefore not anticipated under §102 by Yeo.

For each of the foregoing different reasons, it is respectfully submitted that Claim 6 is not anticipated under §102 by Yeo. Claim 6 is therefore believed to be allowable, and notice to that effect is respectfully requested.

Independent Claim 17

Original independent Claim 17 remains in the present application unchanged. The Office Action rejected Claim 17 under 35 U.S.C. §102 as anticipated by Yeo U.S. Patent No. 6,492,216.

This ground of rejection is respectfully traversed, for the following reasons. As noted above, the PTO specifies in MPEP §2131 that, in order for a reference to anticipate a claim under §102, the reference must teach each and every element recited in the claim. Applicant's Claim 17 includes a recitation of:

altering at least a portion of the semiconductor alloy layer  
overlying the source and drain regions; and  
  
removing, at least partially, the altered semiconductor alloy  
layer overlying the source and drain regions.

At lines 9-11 on page 6, the Office Action asserts that these limitations are both met by lines 44-54 in column 5 of Yeo. However, lines 44-54 in column 5 of Yeo merely state that:

A second option is the formation of metal silicide regions on  
portions of heavily doped source/drain region 9, located only in  
semiconductor substrate 1. This is accomplished via selective  
removal of exposed portions of silicon capping layer 3b, and of

silicon-germanium carbon layer 2, performed after insulator spacer formation, prior to metal silicide formation. The selective removal procedure, performed either prior to, or after heavily doped source/drain formation, is accomplished via dry etching procedures using  $\text{Cl}_2$  or  $\text{SF}_6$  as an etchant for exposed silicon. This is schematically shown in FIG. 7.

In other words, this portion of Yeo merely talks about etching away a material, but it says absolutely nothing about altering a semiconductor alloy prior to the etching. The etching discussed in this portion of Yeo might possibly be compared to the "removing" limitation in Applicant's Claim 17. But there is nothing in this portion of Yeo that could even remotely be considered to meet the "altering" limitation in Claim 17. Accordingly, since the indicated portion of Yeo does not contain anything comparable to the "altering" limitation in Applicant's Claim 17, Yeo fails to disclose each and every element recited in Claim 17. Claim 17 is therefore not anticipated under §102 by Yeo. Consequently, Claim 17 is believed to be allowable, and notice to that effect is respectfully requested.

#### Dependent Claims

The foregoing claim amendments cause Claims 2-5, 7-12 and 15-16 to each depend directly or indirectly from independent Claim 6. Claims 2-5, 7-12 and 15-16 are each believed to be distinct from the art of record, for example for the same reasons discussed above with respect to Claim 6.

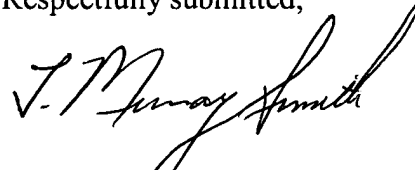
Claims 18-26 and 29 each depend directly or indirectly from independent Claim 17, and are also believed to be distinct from the art of record, for example for the same reasons discussed above with respect to Claim 17.



Conclusion

Based on the foregoing, it is respectfully submitted that all of the pending claims are fully allowable, and favorable reconsideration of this application is therefore respectfully requested. If the Examiner believes that examination of the present application may be advanced in any way by a telephone conference, the Examiner is invited to telephone the undersigned attorney at (972) 739-8647.

Respectfully submitted,



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